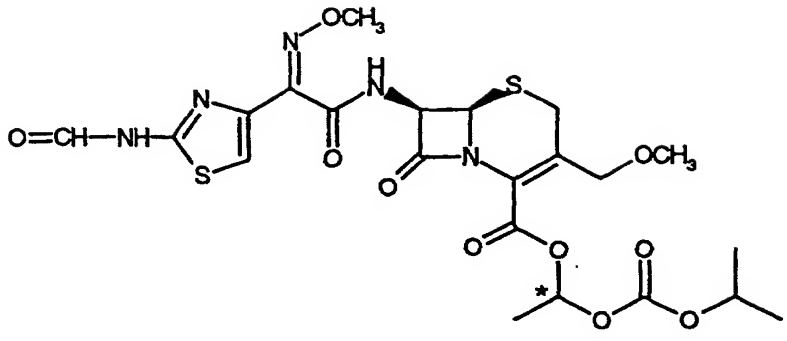
Patent Claims

1. A compound of formula



I

in crystalline form.

2. A mixture of diastereoisomers of a compound of formula I, as defined in claim 1, wherein the diastereoisomeric ratio B/(A+B), wherein B is the more apolar of the two diastereoisomers, is 0.5 to 0.6, the diastereoisomers being with respect with the carbon atom marked with a star in formula I, in crystalline form.

3. A process for the production of a compound of formula I in crystalline form comprising crystallizing a compound of formula I in organic solvent comprising a nitrile, or a ketone.

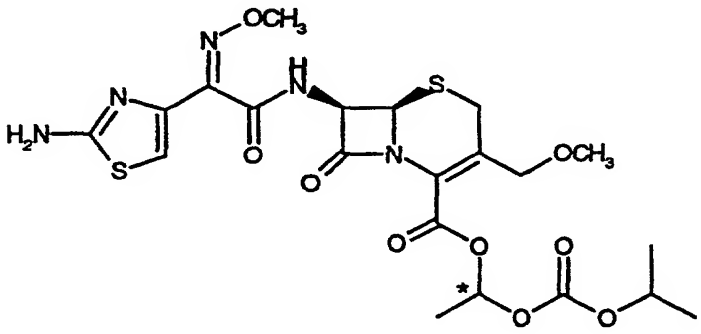
4. A process for the production of a mixture of diastereoisomers of a compound of formula I, as defined in claim 1, wherein the diastereoisomeric ratio B/(A+B), wherein B is the more apolar of the two diastereoisomers, is 0.5 to 0.6, the diastereoisomers being with respect with the carbon atom marked with a star in formula I, in crystalline form, comprising crystallizing a compound of formula I in organic solvent comprising a nitrile or a ketone; or mixtures thereof; and water.

5. Use of crystalline N-formyl cefpodoxime proxetil in the purification of cefpodoxime proxetil.

6. A process for the purification of cefpodoxime proxetil comprising producing a compound of formula I as defined in claim 1 and crystallizing in the presence of a nitrile or a ketone and converting a crystalline compound of formula I into cefpodoxime proxetil.

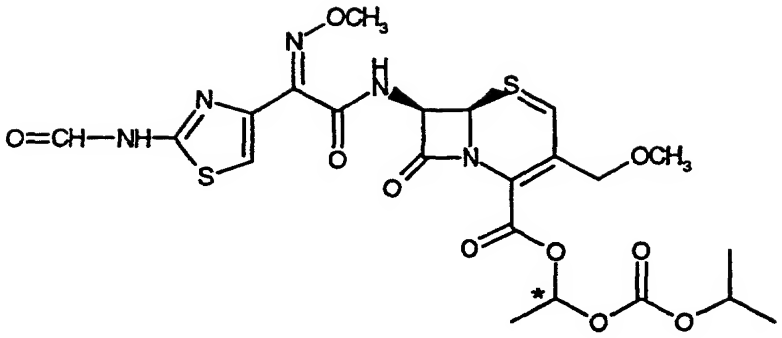
7. A process for the adjustment of the diastereoisomeric ratio B/(A+B) wherein B is the more apolar of the two diastereoisomers; of a mixture of diastereoisomers of cefpodoxime proxetil, the diastereoisomers being with respect with the carbon atom marked with a star in formula I, comprising crystallizing a compound of formula I from a mixture comprising water and either a nitrile or a ketone; or mixtures thereof; and converting a crystalline compound of formula I into cefpodoxime proxetil.

8. A process for the production of a mixture of diastereoisomers of cefpodoxime proxetil of formula



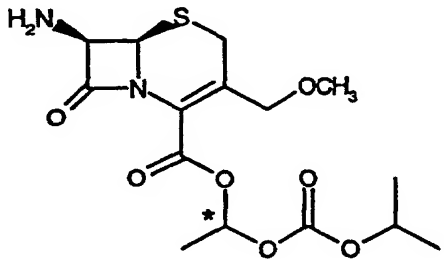
II

in a diastereoisomeric ratio B/(A+B), wherein B is the more apolar of the two diastereoisomers, of 0.5 to 0.6, the diastereisomers being with respect with the carbon atom marked with a star in formula II, comprising producing a mixture of diastereoisomers of a compound of formula



I

by acylating a compound of formula



III

with activated Z-(2-formamidothiazol-4-yl)-methoxyimino acetic acid, removing solvent from the reaction mixture obtained, crystallizing a compound of formula I in the residue obtained in the presence of a nitrile or a ketone, e.g. in the presence of water; isolating a compound of formula I in crystalline form and converting a compound of formula I by splitting off the formyl group from the amino group attached to the thiazolyl group, to obtain a compound of formula I, in the form of a diastereoisomeric mixture in a ratio of B/(A+B) of 0.5 to 0.6.

9. A process according to claim 8 wherein a compound of formula III is produced by esterifying 7-amino-3-methoxymethyl-3-cephem-4-carboxylic acid with a compound of formula

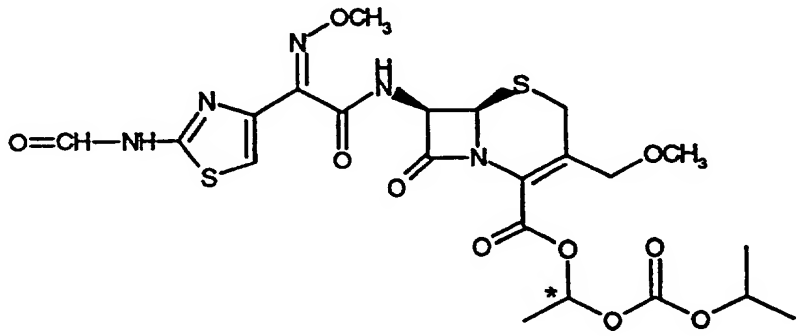
$$X\text{-}CH\text{-}(CH_3)\text{-}O\text{-}CO\text{-}O\text{-}CH(CH_3)_2 \qquad V$$

wherein X denotes a leaving group.

10. A process according to any one of claims 3 to 9 wherein a nitrile is acetonitrile.

11. A process according to any one of claims 3 to 9 wherein a ketone is acetone.

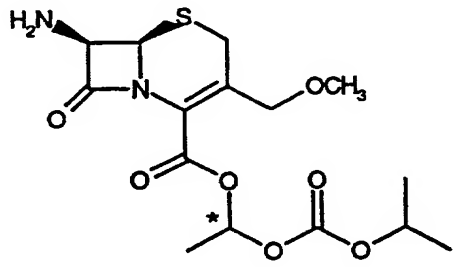
12. Crystalline 7-[2-(2-formylaminothiazol-4-yl)-2-(Z)-(methoxyimino)acetamido]-3-methoxymethyl-3-cephem-4-carboxylic acid-1-(isopropoxycarbonyloxy)ethyl ester of formula



I

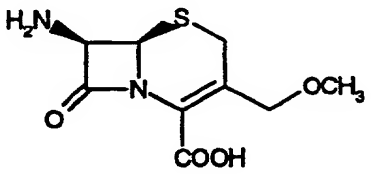
as a diastereoisomeric mixture of formula I (*signifies the asymmetric centre).

13. Process for the production of the diastereoisomeric mixture of formula I, whereby a compound of formula



III

is acylated with a reactive derivative of (2-N-formylaminothiazol-4-yl)-2-(Z)-(methoxy-imino)-acetic acid and the compound of formula I is crystallised in water and a (C_{1-4})nitrile or water and a (C_{3-5})ketone, e.g. whereby the compound of formula III is produced by the esterification of 7-amino-3-methoxymethyl-3-cephem-4-carboxylic acid of formula



IV

with a compound of formula

$$X\text{-}CH\text{-}(CH_3)\text{-}O\text{-}CO\text{-}O\text{-}CH(CH_3)_2 \qquad V$$

wherein X signifies a leaving group, in the presence of a base.